



EXPRESS MAIL NO. EV449565352US

Sheet 1 of 3

FORM PTO-1449  
(REV. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

130109.472C1

APPLICATION NO.

10/780,542

INFORMATION DISCLOSURE STATEMENT  
(Use several sheets if necessary)

APPLICANTS

Charles Stone

FILING DATE

February 17, 2004

GROUP ART UNIT

1713

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
Al	AA	3,341,366	09/12/67	Hodgdon, Jr. et al.	136	86	
	AB	4,012,303	03/15/77	D'Agostino et al.	204	159.17	
	AC	4,113,922	09/12/78	D'Agostino et al.	429	33	
	AD	4,140,815	02/20/79	Dege et al.	427	44	
	AE	4,169,023	09/25/79	Sata et al.	204	98	
	AF	4,262,041	04/14/81	Eguchi et al.	427	245	
	AG	4,420,612	12/13/83	Aiba et al.	536	102	
	AH	4,506,035	03/19/85	Barnett et al.	521	53	
	AI	4,605,685	08/12/86	Momose et al.	522	124	
Al	AJ	5,049,253	09/17/91	Izuo et al.	204	301	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
Al	AK	0 140 544 A2	05/08/85	EP		
	AL	60-110711	06/17/85	JP		
	AM	WO 95/08581	03/30/95	WIPO		
	AN	WO 96/40798	12/19/96	WIPO		
	AO	WO 97/25369	07/17/97	WIPO		
Al	AP	WO 99/24497	05/20/99	WIPO		

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

Al	AQ	Babie et al., "Kinetics of Diffusion-free Radiation Graft Polymerization of Styrene onto Polyethylene," <i>J. Polymer Science: Polymer Chemistry Edition</i> 15:469-488, 1977.
Al	AR	Babie et al., "Study of Energy Transfer to Solvent in Radiation Graft Polymerization of Styrene onto Polyethylene," <i>J. Polymer Science: Polymer Chemistry Edition</i> 15:1619-1628, 1977.

EXAMINER

*Bernard Lypman*

DATE CONSIDERED

7-6-06

\* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).

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RL	BA	5,140,074	08/18/92	DeNicola, Jr. et al.	525	263	
	BB	5,420,200	05/30/95	Koning et al.	525	68	
	BC	5,422,411	06/06/95	Wei et al.	526	243	
	BD	5,498,639	03/12/96	Wei et al.	521	27	
	BE	5,602,185	02/11/97	Stone et al.	521	27	
	BF	5,656,386	08/12/97	Scherer et al.	429	33	
	BG	5,684,192	11/04/97	Stone et al.	562	826	
	BH	5,777,038	07/07/98	Nishikawa et al.	525	295	
	BI	5,817,718	10/06/98	Nezu et al.	525	64	
	BJ	5,830,96	11/03/98	Feiring et al.	526	243	
	BK	5,863,994	01/26/99	DeNicola, Jr. et al.	526	74	
RL	BL	6,359,019	03/19/02	Stone et al.	521	27	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	BM					

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

RL	BN	Gupta et al., "Cation Exchange Membranes by Pre-irradiation Grafting of Styrene onto FEP Films. I. Influence of Synthesis Conditions," <i>J. Polymer Science: Part A: Polymer Chemistry</i> 32:1931-1937, 1994.
	BO	Gupta et al., "Proton Exchange Membranes by Radiation Grafting of Styrene onto FEP Films. II. Mechanism of Thermal Degradation in Copolymer Membranes," <i>J. Applied Polymer Science</i> 51:1659-1666, 1994.
RL	BP	Guzman-Garcia et al., "Analysis of radiation-grafted membranes for fuel cell electrolytes" <i>J. Applied Electrochemistry</i> 22:204-214, 1992.

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## U.S. PATENT DOCUMENTS

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CA						

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
			YES	NO
CB				

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

Blr	CC	Hodgdon et al., "Note: Preparation and Polymerization of Substituted Alpha, Beta, Beta-trifluorostyrenes," <i>J. Polymer Science: Part A-1</i> , vol. 6:711-717, 1968.
	CD	Momose et al., "Radiation Grafting of Alpha, Beta, Beta-trifluorostyrene onto Various Polymer Films by Preirradiation Method," <i>J. Applied Polymer Science</i> 37:2165-2168, 1989.
	CE	Momose et al., "Radiation Grafting of Alpha, Beta, Beta-trifluorostyrene onto Poly(ethylene-tetrafluoroethylene) Film by Preirradiation Method. I. Effects of Preirradiation Dose Monomer Concentration, Reaction Temperature, and Film Thickness," <i>J. Applied Polymer Science</i> 37:2817-2826, 1989.
	CF	Momose et al., "Radiation Grafting of Alpha, Beta, Beta-trifluorostyrene onto Poly(ethylene-tetrafluoroethylene) Film by Preirradiation Method. II. Properties of Cation-Exchange Membrane Obtained by Sulfonation and Hydrolysis of the Grafted Film," <i>J. Applied Polymer Science</i> 38:2091-2101, 1989.
	CG	Momose et al., "Radiation Grafting of Alpha, Beta, Beta-trifluorostyrene onto Poly(ethylene-tetrafluoroethylene) Film by Preirradiation Method. III. Properties of Anion-exchange Membrane Obtained by Chloromethylation and Quaternization of the Grafted Film," <i>J. Applied Polymer Science</i> 39: 1221-1230, 1989.
	CH	Nikitina, T.S., " $\alpha\beta\beta$ -Trifluorostyrene and polymers based on it," <i>Russian Chemical Reviews</i> 59(6): 575-589, 1990.
	CI	Rouilly et al., "Proton Exchange membranes Prepared by Simultaneous Radiation of Styrene onto Teflon-fep Films - Synthesis and Characterization," <i>J. Membrane Science</i> , vol. 81:89-95, 1993.
Mr	CJ	Scherer et al., "Radiation Grafted Membranes: Some Structural Investigations in Relation to their Behavior in Ion-exchange Membrane Water Electrolysis Cells," <i>Int'l. J. Hydrogen Energy</i> 17:115-123, 1992.

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